



Surface Water Design Requirements

CITY COUNCIL MEETING

OCTOBER 18 , 2016

Goal

- ▶ Provide input on proposed changes to KMC Chapters 15.04 and 15.52 as shown in Ordinance O-4538
- ▶ Provide direction on which version of the Addendum to include in the Public Works Pre-approved Plans and Policies

NPDES Stormwater Permit

Adopt

Surface water design requirements
equivalent to Ecology Manual

By

December 31, 2016

Low Impact Development (LID)



Overview – With New Requirements...

- ▶ There will be a **significant** environmental benefit because of the use of LID
- ▶ Increased scrutiny of facilities proposed near landslide hazard areas
- ▶ New regulations will cost more for private development and for CIP projects
- ▶ There will be more up front study
- ▶ Review times will increase (potential fee increase)
- ▶ Maintenance and inspection needs will change

Complements Other City SW Programs



Council Direction from Sept 20th Council Study Session

- ▶ **Present King County package for adoption**
- ▶ **Consensus not reached on requiring flow control facilities for small projects**
- ▶ Return to Council committees with information regarding a potential fee-in-lieu program for small projects in 2017
- ▶ Conduct a study of the adopted requirements
- ▶ Explore education and outreach needs and opportunities associated with low impact development

King County Package



- ▶ 2016 King County Surface Water Design Manual
- ▶ 2016 King County Stormwater Pollution Prevention Manual
- ▶ Kirkland Addendum to the 2016 King County Surface Water Design Manual (to be incorporated in the Public Works Pre-Approved Plans and Policies)
- ▶ Cross-reference between KMC and King County Code Chapter 9.04, 9.12 and 16.82

Proposed Changes to KMC 15.04

- ▶ Alter language to adopt the King County package
- ▶ Delete definitions that are reflected in the 2016 KCSWDM
- ▶ Add definition of Public Works Pre-approved Plans and Policies

Proposed Changes to KMC 15.52

- ▶ Alter language to adopt the King County package
- ▶ Clarify language to determine when a drainage review is required
- ▶ Update language to remain consistent across the surface water code
- ▶ Clarify maintenance responsibilities

Proposed Changes to KMC 15.52 (Continued)

Clarify Maintenance Responsibility

City Responsibility

When located in the public right of way or serves residential development and is in a tract or easement dedicated to the City:

- Water Quality Treatment
- Flow Control
- LID
- Conveyance

Home/Property Owner Responsibility

When located on private property:

- ▶ Commercial/multi-family (nonresidential):
 - Water Quality Treatment
 - Flow Control
 - LID
 - Conveyance
- ▶ Residential:
 - LID
 - Conveyance

Council Discussion

- ▶ Are proposed KMC changes as shown in Ordinance O-4538 acceptable?



Kirkland Addendum to 2016 King County Surface Water Design Manual

- ▶ Addendum includes implementation details: revisions and clarifications
- ▶ Addendum is incorporated in Public Works Pre-Approved Plans and Policies
- ▶ Public Works Director has authority to develop and update Public Works Pre-Approved Plans and Policies, but seeks Council direction on significant policy issues

Addendum – Summary of Contents



- ▶ Details of drainage review types and requirements
- ▶ Implementation details regarding offsite analysis of wetlands and water quality problems
- ▶ Additional alternatives for water quality treatment, remaining consistent with the 2014 Ecology Manual
- ▶ Clarification of soil infiltration testing requirements
- ▶ Table that cross-references Kirkland and King County codes

Alternatives for Addendum

Alternative A

- Requires flow control facilities for small projects

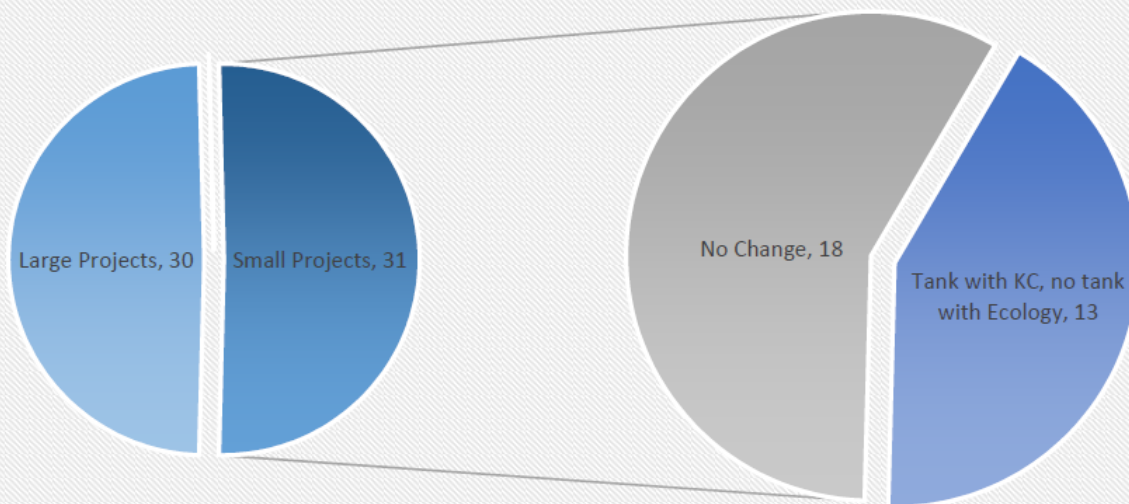
Alternative B

- Does not require flow control facilities for small projects

Note: Small projects are those that propose to add between 7,000 and < 10,000 sf of impervious surface

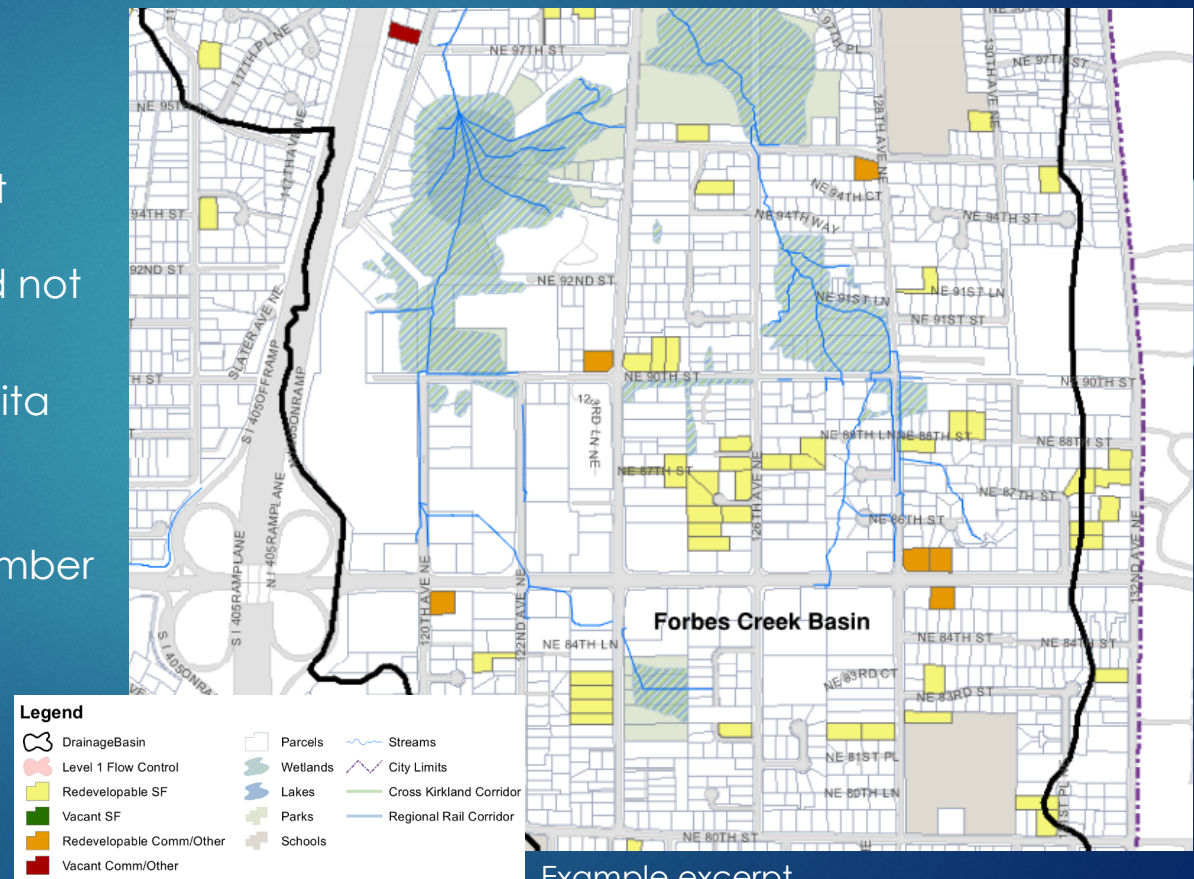
Flow Control for Small Projects

2015 Kirkland Projects Affected by Differences Between King County vs Ecology Manual



Flow Control for Small Projects

- ▶ 443 parcels total by 2035 that would have to provide tanks under King County but would not have to under Ecology
- ▶ Most are in Forbes (124) Juanita (92) and Champagne (84) watersheds
- ▶ This is about 1/3 of overall number of parcels likely to develop/redevelop in City



Example excerpt

Alternatives for Flow Control for Small Projects

Alternative A Require Flow Control beyond LID

- ▶ Greater protection for downstream resources
- ▶ Higher construction cost
- ▶ City would be responsible for inspection and maintenance of these facilities (estimated 10-15 would be added per year)

Alternative B Do Not Require Flow Control beyond LID

- ▶ No increased protection for downstream resources
- ▶ Potential for downstream flooding due to cumulative impacts
- ▶ City may have a need to provide flow control at a later date, and it would be costly for rate payers
- ▶ Regional facilities to provide flow control would be hard to site

The developer will factor development costs, including stormwater costs, into the price that they will pay for undeveloped land

Staff Recommendation



- ▶ Alternative A: Require flow control facilities for small projects
- ▶ Conduct Study
 - LID Feasibility Tools
 - Other means of implementing LID
 - Evaluation of flow control sizing under both manuals
 - Return to Council with findings / recommendations

Discussion and Council Direction



- ▶ Which Alternative Addendum?

Alternative A: Requires flow control facilities for small projects

OR

Alternative B: Does not require flow control facilities for small projects

Next Steps



- ▶ October 24th Public Open House
- ▶ Present code changes for adoption at November 1st Council meeting
- ▶ Incorporate preferred version of the Addendum into the Pre-approved Plans and Policies
- ▶ Continue to evaluate cost, fee, and program impacts as part of 2017-2018 budget
- ▶ Requirements effective January 1, 2017